

REMARKS

Upon entry of the Amendment, Claims 1-2 and 7-19 are all the claims pending in the application. Claims 3-6 are canceled. Claims 14-19 are new claims.

Reconsideration and review of the claims on the merits are respectfully requested.

Title of the Invention

The title of the invention is assertedly not descriptive, and the Examiner requires a new title that is clearly indicative of the invention to which the claims are directed.

Applicants respond by amending the title as suggested by the Examiner: "Ceramic Heater With Lead Wire Connection Having Brazing Material Containing a Predominant Amount of Copper."

Accordingly, Applicants request entry of the amendment and withdrawal of the objection to the title.

Drawings

The drawings are objected to because of the following informalities: Fig. 7: The figure must be labeled "PRIOR ART."

Applicants respond as follows.

Applicants submit concurrently herewith a separate letter addressed to the Examiner which contains: (1) a sketch of Fig. 7 showing *in red* the drawing changes required above, (2) a

request that the Examiner approve the change shown on the sketch and (3) a formal corrected drawing including the change to Fig. 7.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the objection to the drawings.

Claim Rejections - 35 U.S.C. § 102

Claims 1 and 7 are rejected under 35 U.S.C. § 102(e) as assertedly being anticipated by Tanaka et al (US 6,512,210) for the reasons given in the Office Action.

Tanaka et al is asserted to disclose a ceramic heater with a heating element buried in a ceramic substrate and a lead wire joined to a connection terminal via a brazing metal that is “based on Cu” (i.e., comprises a predominant amount of copper).

Applicants respond as follows.

Applicants amend Claim 1 to recite “a brazing metal which contains a predominant amount of copper and further contains Ti and Si as activation metals, each in an amount of 0.1-5% by mass of the brazing metal”. Support for the amendment can be found, for example, in paragraphs [10], [26] and [28] of the specification as originally filed. No new matter has been added. Entry of the Amendment is respectfully requested.

By way of example and not by limitation, neither Tanaka et al nor Tanaka et al in combination with any of the other cited references disclose such a requirement of further containing both Ti *and* Si in accordance with present Claim 1 as amended. The significance of such limitation is as follows.

As described in Paragraph [10], Si effectively enhances wettability in brazing to metal or ceramic. However, a brazing metal which contains a large amount of Si suffers low ductility in the course of production thereof. On the other hand, Ti effectively enhances wettability in brazing to ceramic and contributes most to enhancement of wettability. However, when the Ti content is excessive, a brazing metal layer formed by joining exhibits increased hardness and thus becomes brittle. That is, Ti and Si, as activation metals, exhibit merits and demerits basically different from one another. However, co-addition of Ti and Si as described in Paragraphs [26] and [28] imparts a synergistic effect.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection under 35 U.S.C. § 102(e).

Claim Rejections - 35 U.S.C. § 103

A. **Claims 3 and 5** are rejected under 35 U.S.C. § 103(a) as assertedly being unpatentable over Tanaka et al in view of Cooper et al (US 6,078,028) for the reasons given in the Office Action.

Applicants cancel Claims 3 and 5, thereby obviating the rejection of these claims.

B. **Claim 2** is rejected under 35 U.S.C. § 103(a) as assertedly being unpatentable over Tanaka et al in view of Finch (US 2,629,922) for the reasons given in the Office Action.

Applicants respond that Claim 1 from which Claim 2 depends upon now contains a requirement further containing both Ti *and* Si in accordance with present Claim 1 as amended.

Applicants submit that neither Tanaka et al or Tanaka et al in combination with Finch or any of the other cited references disclose or render obvious such a requirement.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection under 35 U.S.C. § 103(a).

C. Claims 4 and 6 are rejected under 35 U.S.C. § 103(a) as assertedly being unpatentable over Tanaka et al in view of Finch and further in view of Copper et al for the reasons given in the Office Action.

Applicants cancel Claims 4 and 6, thereby obviating the rejection of these claims.

Allowable Subject Matter

Applicants appreciate that Claims 8-13 are objected to as being dependent upon a rejected base claim but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Applicants add new Claims 14-19 to cover the subject matter of Claim 8 rewritten in independent form including all of the limitations of the base claim, before further amendment, and dependent Claims 9-13. No new matter has been added. Entry of the new claims along with the allowance of these new claims are respectfully requested.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the

AMENDMENT UNDER 37 C.F.R. § 1.111

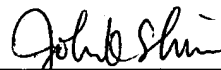
Q68696

U.S. Application No.: 10/091,445

Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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